

Appl. No. 09/774,505
Amdt. dated 11/05/2004
Reply to the Office Action of 08/05/2004

REMARKS/ARGUMENTS

Reexamination and reconsideration of this application as amended is requested. By this amendment, Claims 14, 16, and 30, have been amended. After this amendment, Claims 1-33 remain pending in this application.

Minor Corrections to the Specification

Applicant has amended the specification to correct typographical errors. The second paragraph beginning on page 6, line 17, and ending on page 7, line 4, has been amended to identify the correct figure ID numbers for the "new packet composers 308A, 308B".

Claim Rejections - 35 USC § 102

(1-15) The Examiner rejected Claims 1-6, 9-13, 26, and 29 under 35 U.S.C. 102(e) as being anticipated by Jones et al. U.S. Pat. No. 6,512,776. This rejection is respectfully traversed.

Jones et al. discloses a technique for multicasting UDP packets or other packets at a router so that multiple users that are accessing different sources simultaneously receive the packets. The Examiner directs the Applicant to col. 2, lines 30-52, wherein Jones describes an implementation of the above technique.

Jones discloses that a router searches for data streams where the UDP packets are identical. For example, two separate but identical data streams from two different sources may be received by the router. In order to identify identical data streams, the UDP checksums of each data stream are modified so that only data in the packets are compared. The modified checksum values are stored and then compared to identify the

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identical data streams.

Once the data streams are determined to be identical, the router notifies the clients who sent the identical data streams that the UDP packets are replaced by a single multicast data stream. The notification sent by the router configures the clients to use the data link layer multicast facility. The clients then monitor a MAC address to receive their packets.

After receiving the multicast packet at the MAC address, the clients' data link layer replaces the IP header from the multicast data stream with the correct IP header for the clients' application. Data streams are received by the application exactly as it would have been without the multicast data stream. Therefore, the destination address (and possibly the source address and the appropriate UDP port numbers) in the received IP header is replaced with the appropriate destination. This field must be saved from the setup message that signaled the switch to multicasting.

In contrast, as recited for Claims 1 and 29, the presently claimed invention recites receiving a first request for a first item of information from a first networked device. In addition, a second request for the first item of information is received from a second networked device. The present invention further recites forming a **combined packet including a first address used for the first networked device, a second address used for the second networked device**, and a data payload that includes at least a part of the first item of information, for delivering the data payload to multiple networked devices.

Jones does not teach or suggest including a first address for the first networked device or including a second address for the second networked device. The Examiner directs the Applicant to col. 2, lines 30-52 and neither here nor anywhere else in the reference does Jones teach or suggest the inclusion of these addresses. Jones teaches at col. 4, lines 44-53, that the destination address and possibly the source address and

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appropriate UDP port numbers in the received IP header of the multicast packet are replaced locally by the client with the appropriate destination. Jones also teaches at col. 4, lines 51-53, that the field being replaced, for example, the destination address, source address, and/or the UDP port numbers, must be saved from the setup message that signaled the switch to multicasting. Accordingly, it should be clear from the discussion above that the address included in the multicast packet as taught by Jones is a single multicast address. Therefore, Jones does not teach, anticipate, or suggest forming a **combined packet including a first address used for the first networked device, a second address used for the second networked device** as recited for independent Claims 1 and 29, and for all dependent claims depending therefrom, respectively.

Claims 2 and 12 depend directly from Claim 1. Additionally, Claims 3-6 and 9-13 depend from Claim 1 by way of an intervening claim. Since dependent claims recite all of the limitations of the independent claim; it is believed that, therefore, claims 2-6 and 9-13 also recite in allowable form.

Regarding Claim 26, the presently claimed invention recites, among other things, a packet merger for combining the first destination address, the second destination address, and the item of information in a packet. The above arguments and remarks regarding Claims 1 and 29, and more specifically with respect to the claim language **“a combined packet including a first address used for the first networked device, a second address used for the second networked device”**, are likewise applicable here in support of the allowability of Claim 26. These applicable arguments have already been presented above and will not be repeated here.

Therefore, in view of the amendments and remarks above, Applicant believes that since Jones does not teach, anticipate, or suggest, inter alia, the presently claimed **“a combined packet including a first address used for the first networked device, a second address used for the second networked device”** or **“a packet merger for combining the first destination address, the second destination address, and the item of information in a**

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packet", the rejection of Claims 1-6, 9-13, 26, and 29 under 35 U.S.C. 102(e) has been overcome. The Examiner should withdraw the rejection of these claims.

Claim Rejections - 35 USC § 103

(16-26) The Examiner rejected Claims 14, 16 and 30 under 35 U.S.C. 103(a) as being unpatentable over Jones et al., U.S. Pat. No. 6,512,776, in view of Hesse, U.S. Patent No. 6,754,207. This rejection is respectfully traversed.

Applicant has amended Claim 14 to more clearly and distinctly recite the present invention. Amended Claim 14 more clearly and distinctly recites "the first address used for the first networked device" and "the second address used for the second networked device". Support for these amendments may be found in the specification as originally filed. See for example page 7, lines 19-28 and page 8, lines 25-30. No new matter was added.

First of all, Claim 14 depends from amended independent Claim 1, and as discussed above, since dependent claims recite all of the limitations of the independent claim, it is believed that, therefore, Claim 14 is not taught, anticipated, or suggested by the teachings of Jones. Additional arguments regarding the allowability of Claim 14 are given below.

As discussed above, Jones teaches a technique for multicasting UDP packets or other packets at a router so that multiple users that are accessing different sources simultaneously receive the packets. A router searches for identical data streams being transmitted from different sources. Once identical data streams are identified, the router notifies the clients who sent the identical data streams that the UDP packets are replaced by a single multicast data stream.

The clients monitor and receive multicast packets at the MAC address. Once the

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packet is received, the clients' data link layer replaces the IP header from the multicast data stream with the correct IP header for the clients' application. Consequently, the destination address (and possibly the source address and the appropriate UDP port numbers) in the received IP header is replaced with the appropriate destination. This field must be saved from the setup message that signaled the switch to multicasting.

Hesse teaches interconnect structures and switches for computing and communication systems. The switches exploit the interconnect structures to attain scalability, low latency, and single-chip implementations. The Examiner directs Applicant to col. 21, lines 25-50, wherein Hesse teaches a stair-step interconnect with multicasting of messages. The multicasting is supported by using multiple headers for a single payload. The multicasting taught by Hesse occurs when a payload from a single input port is sent to multiple ports during one time cycle.

Each header specifies the target address for the payload, and the address can be any output port. The first header is processed as described hereinbefore and the control logic sets an internal latch which directs the flow of the subsequent payload. Immediately following the first header, a second header follows the path of the first header until reaching a cell where the address bits determinative of the route for that level are different. Here the second header is routed in a different direction than the first. An additional latch in the cell represents and controls a bifurcated flow out of the cell. Similarly, a third header follows the path established by the first two until the header bit determinative for the level indicates branching in a different direction. When a header moves left to right through a cell, the header always sends a busy signal upward indicating an inability to receive a message from above.

In contrast, as recited for amended Claim 14, the present invention recites adding to the combined packet a first reliable unicast header part associated with the first address used for the first networked device. Additionally, a second reliable unicast header part associated with the second address used for the first networked device is added to the

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combined packet. Reliable unicast header information includes, for example, TCP header information, a checksum, window size, or the like (See Specification, pages 8 and 14, lines 30-31 and 5-10 respectively). The TCP header information is used for connection management purposes. Additionally, the TCP header information preferably provides per destination tracking information, e.g. for tracking the flow of data to a particular destination such as the first and second networked devices in the network (See Specification, pages 8-9, lines 31, 1-4 respectively).

With respect to Jones, the above arguments and remarks regarding Claims 1 and 29 and more specifically, **“a combined packet including a first address used for the first networked device, a second address used for the second networked device”** are likewise applicable here in support of the allowability of Claim 14. These applicable arguments have already been presented above and will not be repeated here.

Additionally, the Examiner has acknowledged that Jones does not teach adding to the combined packet a first and second reliable unicast header part associated with the first address and second address respectively.

Turning now to Hesse, Hesse does not teach or suggest “reliable unicast header part”. In fact, nowhere does Hesse teach or suggest reliability. The multiple headers taught by Hesse are only used to steer the multicast packet from an input port on the stair-step interconnect switch to multiple output ports on the same switch. Additionally, Hesse does not teach a “first address used for the first networked device” or a “second address used for the second networked device”. Each address that is specified by the header is for an output port of the switch that the multicast packet is being transmitted from and not for a networked device, as now recited for amended Claim 14. Therefore, Hesse does not teach or suggest “adding to the combined packet a first reliable unicast header part associated with the first address used for the first networked device and adding to the combined packet a second reliable unicast header part associated with the second address used for the second networked device”, as now recited for amended Claim 14.

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Furthermore, even if the teachings of Jones and Hesse were combined (although such a combination would require significant modifications to both references); the present invention as now recited in amended Claim 14 would not be met. As discussed above, Jones teaches that the clients' data link layer replaces the IP header from the multicast data stream with the correct IP header for the clients' application. Therefore, the destination address (and possibly the source address and the appropriate UDP port numbers) in the received IP header is replaced with the appropriate destination. This field must be saved from the setup message that signaled the switch to multicasting. Therefore, Jones teaches using a single multicast address in the multicast packet, wherein the client must locally update the packet with the final destination addresses. Therefore, Jones does not teach or suggest a combined packet including a first and second address used for a first and second networked device respectively.

Hesse, as discussed above, teaches multiple headers that are used to steer the multicast packet from an input port on the stair-step interconnect switch to multiple output ports on the same switch. Hesse does not teach or suggest a "reliable unicast header part". The multiple headers specify addresses of output ports that are located on the same switch as the input port from which the multicast packet is being transmitted from. Hesse does not teach a first and second address used for a first and second networked device respectively. Therefore, a combination of Jones and Hesse would not yield the invention as now recited in amended Claim 14, nor is there any suggestion to combine the references.

Regarding Claims 16 and 30, Applicant has amended independent Claims 16 and 30 to more clearly and distinctly recite the present invention. Amended Claims 16 and 30 more clearly and distinctly recite "the first destination address is used for a first networked device" and "the second destination address is used for a second networked device". Support for these amendments may be found in the specification as originally

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filed, see for example page 7, lines 19-28 and page 8, lines 25-30. No new matter was added.

The above arguments and remarks regarding Jones with respect to Claims 1 and 29, and more specifically, **“a combined packet including a first address used for the first networked device, a second address used for the second networked device”**, are likewise applicable here in support of the allowability of Claims 16 and 30. Additionally, the above arguments and remarks regarding Jones and Hesse with respect to amended Claim 14 and more specifically, **“the first address used for the first networked device”**, **“the second address used for the second networked device”**, and **“reliable unicast header part”** are also likewise applicable here in support of the allowability of Claims 16 and 30. These applicable arguments have already been presented above and will not be repeated here. However, a few main points will be reiterated for clarity.

As discussed above, Jones teaches that the IP header information received by the clients from the multicast data stream is replaced by the clients with the correct IP header information for the clients' application. The client locally replaces the destination information with data saved from at the time the initial setup message from the router was received. Therefore, Jones teaches that a single multicast address is used and does not teach or suggest destination addresses as recited in amended Claims 16 and 30.

Also, as discussed above, Hesse teaches that the headers steer the multicast packet from an input port of a switch to multiple output ports of the same switch. The headers specify the target addresses, which are the output ports and not destination addresses used for a networked device, as recited for amended Claims 16 and 30. Additionally, Hesse teaches that the headers only steer the multicast packet to the output ports and does not teach or suggest a **“reliable unicast header part”** as recited for amended Claims 16 and 30. Therefore, neither Jones or Hesse alone, or any combination of the two references, yields the invention as now recited for amended Claims 16 and 30, nor is there suggestion to combine these references.

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Applicant respectfully suggests that in the outstanding Action, the rejections evidence "picking and choosing" features of various references and combining them when there is no suggestion in those references to do so. It is impermissible within the framework of a 35 U.S.C. §103 rejection to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. Furthermore, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so.

Accordingly, in view of the amendments and remarks above, since neither Jones, Hesse, nor any combination thereof, teaches, anticipates, or suggests, the presently claimed invention as recited for amended Claims 14, 16, and 30, Applicant believes that the rejection of Claims 14, 16, and 30 under 35 U.S.C. 103(a) has been overcome. The Examiner should withdraw the rejection of these claims.

(27-29) The Examiner rejected Claim 17 under 35 U.S.C. 103(a) as being unpatentable over Jones et al., U.S. Pat. No. 6,512,776, in view of Hesse, U.S. Patent No. 6,754,207, and further in view of Chao et al., U.S. Pat No. 6,389,031. This rejection is respectfully traversed.

Claim 17 depends from Claim 16 and since dependent claims recite all of the limitations of the independent claim, it is believed that, therefore, Claim 17 is distinguishable from any single reference or any arguable combination of Jones and Hesse, as has been already discussed above with respect to Claim 16. However, additional arguments regarding Claim 17 are given below.

The Examiner repeats her rejection of independent Claim 16 for dependent Claim

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17, but acknowledges that Jones and Hesse do not teach a "TCP header". With respect to Jones and Hesse, the above arguments and remarks regarding Claim 16 are likewise applicable here in support of the allowability of Claim 17. These applicable arguments have already been presented above and will not be repeated here.

Chao teaches a method and apparatus for fairly scheduling queued packets using a ram-based search engine. Examiner directs Applicant to FIG. 1 of Chao and to col. 3, lines 22-31, wherein Chao is describing the prior art. A user data is a byte stream that is provided with a TCP header to form a TCP segment. The TCP segment is provided with an IP header to form an IP datagram. Additionally, a network header is provided with the IP datagram to define a network-level packet.

Applicant acknowledges that Chao teaches a TCP header. But, this teaching is in a totally different context than the presently claimed invention as recited for Claim 17. Dependent claims recite the limitation of their independent claim, and Claim 17 is further limiting the step recited in Claim 16 of receiving the first reliable unicast header part to also include receiving a first TCP header. Chao does not teach or suggest receiving a first reliable unicast header part of the first packet that corresponds to the first destination address further comprising the sub-step of receiving a first TCP header. Therefore, Jones, Hesse, and Chao either alone or in any combination thereof do not teach or suggest the claimed invention as recited for Claim 17 nor is there any suggestion to combine these references.

As Applicant has already respectfully indicated above, "picking and choosing" features of various references and combining them when there is no suggestion in those references to do so is impermissible. It is impermissible within the framework of a 35 U.S.C. §103 rejection to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. Furthermore, obviousness cannot be established by combining the teachings of the prior art to produce

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the claimed invention absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so.

Accordingly, in view of the amendments and remarks above, Applicant submits that Jones, Hesse, and Chao, either each taken alone or in any combination thereof, does not teach, anticipate, or suggest, the presently claimed invention as recited for Claim 17. Applicant therefore believes that the rejection of Claim 17 under 35 U.S.C. 103(a) has been overcome. The Examiner should withdraw the rejection of this claim.

(30-32) The Examiner rejected Claim 18 under 35 U.S.C. 103(a) as being unpatentable over Jones et al., U.S. Pat. No. 6,512,776 in view of Hesse, U.S. Patent No. 6,754,207, and in further view of Bryden et al., U.S. Pat No. 6,717,944. This rejection is respectfully traversed.

Claim 18 depends from Claim 16 and it is believed that, therefore, Claim 18 is distinguishable from any single reference or any arguable combination of Jones and Hesse, as has been already discussed above with respect to Claim 16. However, additional arguments regarding Claim 18 are given below.

The Examiner repeats her rejection of independent Claim 16 for dependent Claim 18, but acknowledges that Jones and Hesse do not teach a "determining a first and second next hop based on the first and second destination addresses". With respect to Jones and Hesse, the above arguments and remarks regarding Claim 16 are likewise applicable here in support of the allowability of Claim 18. These applicable arguments have already been presented above and will not be repeated here.

Bryden teaches a system, device, and method for allocating virtual circuits in a communication network.. The Examiner directs Applicant to col. 9, lines 54-56, wherein Bryden teaches that upon deciding to send a unicast protocol message, the logic searches

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the routing table to determine a next hop address for the unicast protocol message based upon the destination address in the unicast protocol message.

Applicant acknowledges that Bryden teaches determining the next hop address based on the destination address. But, this teaching is in a totally different context than the presently claimed invention as recited for Claim 18. Dependent claims recite the limitation of their independent claim, and Claim 18 is further limiting the method recited in Claim 16 by adding additional steps. Bryden teaches a unicast protocol message **(unicast messages only contain one destination address)** and determining the next hop based on the single destination address in the unicast message. Bryden does not teach determining a first next hop and then a second next hop based on the first and second destination addresses respectively. The first and second destination addresses are part of a first packet, as recited for Claim 16. Therefore, Jones, Hesse, and Bryden either alone or in any combination thereof do not teach or suggest the claimed invention as recited for Claim 18 nor is there any suggestion to combine these references.

As Applicant has already respectfully indicated above, "picking and choosing" features of various references and combining them when there is no suggestion in those references to do so is impermissible. It is impermissible within the framework of a 35 U.S.C. §103 rejection to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. Furthermore, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so.

Accordingly, in view of the amendments and remarks above, since Jones, Hesse, and Bryden either taken individually or in any combination thereof, does not teach, anticipate, or suggest, the presently claimed invention as recited for Claim 18, Applicant

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believes that the rejection of Claim 18 under 35 U.S.C. 103(a) has been overcome. The Examiner should withdraw the rejection of this claim.

Allowable/Allowed Subject Matter

(33) The Examiner objected to Claims 7, 8, 15, 19-22, and 33, as being dependent on a rejected base claim, but indicated that these claims would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims.

In view of the amendment and remarks above, Applicant believes that Claims 7, 8, 15, 19-22, and 33 now recite in allowable form. Accordingly, Applicant requests that the Examiner withdraw the objection to these claims.

Regarding Claim 33, the Office Action both allowed and objected to Claim 33. Since the Examiner allowed Claim 32, which Claim 33 depends from, Applicant believes that the Examiner also allowed Claim 33. If this understanding is incorrect, Applicant respectfully requests that the Examiner clarify her position regarding Claim 33.

(34) Additionally, Applicant wishes to acknowledge and thank the Examiner for expressly allowing Claims 23-25, 27-28, and 32. Applicant also believes that the Examiner intended to allow Claim 33.

Conclusion

The foregoing is submitted as full and complete response to the Official Action mailed August 5, 2004, and it is submitted that Claims 1-33 are in condition for allowance. Reconsideration of the rejection is requested. Allowance of Claims 1-33 is earnestly solicited.

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No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Applicant acknowledges the continuing duty of candor and good faith to disclosure of information known to be material to the examination of this application. In accordance with 37 CFR §§ 1.56, all such information is dutifully made of record. The foreseeable equivalents of any territory surrendered by amendment are limited to the territory taught by the information of record. No other territory afforded by the doctrine of equivalents is knowingly surrendered and everything else is unforeseeable at the time of this amendment by the Applicant and the attorneys.

The present application, after entry of this amendment, comprises thirty-three (33) claims, including eight (8) independent claims. Applicant has previously paid for thirty-three (33) claims including eight (8) independent claims. Applicant, therefore, believes that a fee for claims amendment is currently not due.

If the Examiner believes that there are any informalities that can be corrected by Examiner's amendment, or that in any way it would help expedite the prosecution of the patent application, a telephone call to the undersigned at (561) 989-9811 is respectfully solicited.

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The Commissioner is hereby authorized to charge any fees that may be required or credit any overpayment to Deposit Account 50-1556.

In view of the preceding discussion, it is submitted that the claims are in condition for allowance. Reconsideration and re-examination is requested.

Respectfully submitted,

Date: 11/05/04

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